GL2200

4 group live console

FOH/monitor dual functionality

12 to 32-channel frames

ALLEN & HEATH

GL2200

INTRODUCTION

GL2200 is a professional live mixer incorporating the breadth of facilities, FOH/monitor dual functionality and transparent British sound quality to be expected only from much more expensive desks. Ask anyone who's used an Allen & Heath mixer - the sound quality is superb.

Four group and six aux busses, Allen and Heath's excellent 4-band EQ with swept mids, input metering, channel direct outs, comprehensive engineer's setup tools and talkback combine to make GL2200 a truly versatile mixer for live performances.

Four frame sizes offer 12, 16, 24 or 32 channels, including two full feature stereo channels and two further stereo returns. Further expansion is available through the Allen & Heath Sys-Link™ buss interconnection system.

GL2200's rigid all-metal mechanical construction gives long, reliable and consistent performance in the most demanding live sound applications.

All in all, GL2200 has the flexibility, the functionality and the outstanding sound quality that professionals demand.

- FOH/stage-monitor dual functionality
- 4 groups, 6 auxes
- Groups, auxes and L, R and M outs
- 12, 16, 24 and 32 channel frames
- 2 stereo line channels with mic capability
- 2 stereo returns with faders, EQ and aux sends
- Channel direct outs
- 2-track send and return
- 4-band EQ with swept mids and in/out switch
- Input metering on each channel
- Phantom 48V, switchable on each channel
- Inserts on all mono inputs
- Inserts groups (auxes) and L-R outs
- Comprehensive AFL/PFL monitoring
- Pink noise generator for speaker setup
- Oscillator for equipment line up
- Talkback facility
- High-performance internal power supply
- Built-in combiner for external power supply
- Console lamp connector
- Sys-link™ expandability
- Rugged build quality

Masters, monitors ar

DUAL FUNCTIONALITY

GL2200 can be dedicated fully to front-of-house, fully to stage monitors, or the console can function as a combination mixer feeding both the p.a. system and stage monitors. Panel "mode" buttons, protected against accidental operation, select whether the master controls handle either group/L-R outputs or aux sends.

Front-of-house.
For dedicated FOH application, the 4 groups and main L-R busses are routed through the master faders to balanced XLR outputs for main speaker arrays and infills. Groups can be routed and panned to the L-R mix for subgrouping and a mono output is provided for centre fill or special feeds.

Inserts for delays, graphic EQ and other signal processing are provided on all outputs. Six aux send busses from every channel give full fx flexibility.

FOH + stage monitors.
Stage monitor feeds can be selected in pairs using the mode switches. Swapping groups 1 and 2 with auxes 1 and 2, for example, gives full fader control and balanced XLR outputs for two stage monitors, leaving groups 3 and 4 and L-R-M for FOH feeds. More auxes can be swapped as required, enabling GL2200 to be quickly matched to different events, different venues or different bands.

On-stage monitors
Selecting all three mode switches sets the console to dedicated stage monitor mode with all six auxes routed to the metered group and L-R outs. Each balanced XLR output will have a 100mm fader, an insert point, talkback and AFL monitor. An engineer's wedge monitor can be fed from the mono out connector via a protected mode switch.

Inputs

GL2200

Mono and stereo inputs

MONO MIC/LINE INPUT CHANNELS

Wide range, low distortion input preamps characterise the quiet, convenient professionalism of the GL2200. Comfortably dealing with signals from -60 to +10dBu, the balanced XLR mic/line input accepts both microphone and line signals. A separate balanced 1/4"TRS jack connector is also provided for line inputs from -40 to +10dBu.

Input phase reversal and lo-cut filter are available pre-insert, on each channel, prior to routing to EQ.

4 band EQ
Allen & Heath's designers have a reputation for creating the best in British EQ.

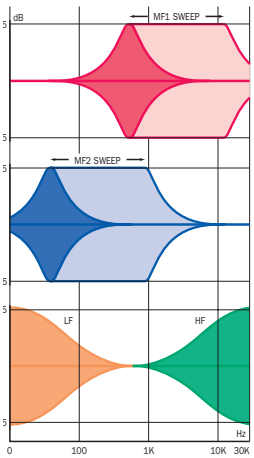
GL2200 has 4 EQ bands with swept frequency controls for the two mids. The HF control used in conjunction with the Hi Mid sweep enables presence to be added to vocals or sibilance removed. The silky high-end characteristics of the HF band can soften the most iron clad cymbals.

The Lo Mid band can eliminate booming, muddy "proximity effects" inherent in microphones when close miking, and the lo-cut filter works in conjunction with the LF control to give a bass end boost whilst cutting stage rumble and vocal popping.

FEATURES AND FLEXIBILITY

Six auxes, switchable pre or post fade for fx and monitors, large channel mute buttons with clear leds, pan and routing controls to L-R and groups, PFL with warning leds, individual channel metering and phantom power switching, full length 100mm faders and intelligent panel layout and colour coding give you the intuitive control you need for accurate and efficient productions every time.

Internal links give even more options to set the console to your preferred way of working.



STEREO INPUTS AND RETURNS

Two stereo inputs and two stereo fx returns are included in every frame size, together amounting to eight further inputs to the mix.

Stereo inputs
Each stereo input has the same wide range preamp as the mono channels, a 4-band EQ and 6 aux sends (sending the mono sum of left and right signals).

GL2200's stereo channels can also be used as mic channels, giving you maximum flexibility. And you can use the stereo Line inputs as additional stereo returns at the same time, so nothing is wasted. The *mic/line* switch selects the signal to be routed through the main channel path: if *mic* is selected then pressing the *line to lr* switch routes the stereo input source direct to the L-R mix buss.

The mic input on the right hand stereo channel acts as the talkback mic input when the main channel source is selected as *line*. A bright green l.e.d. indicates when this routing is set.

Stereo returns.
Stereo fx returns are handled by two channels in the master section, each providing sends to auxes 1 and 2 (for, say, adding reverb or fx to monitors as well as L-R) 2-band EQ, mute and PFL. Balance controls set the stereo position in the output, routed via fader control to the L-R mix or a pair of subgroups, as required.

nd outputs

MADE FOR THE PROFESSIONAL

Built to the same reliable and easily serviced standard as the input channels, the master section has vertically mounted circuit boards and clear, uncluttered controls.

The six aux master controls, colour coded to match the channel sends, have AFL buttons with l.e.d. indicators. The outputs are impedance balanced on TRS jacks for long feeds.

MASTER METERING

The 12-segment master L-R bargraph at the top of the section follows the L-R mix, PFL/AFL or 2-track signals.

Any AFL or PFL selection on the console overrides the L-R mix monitor, and is warned by a big red l.e.d. in the master section as well as individual l.e.d.s on the channels. Depressing the *L-R/2-track* button also overrides the monitor mix, for listening to tape input replay.

Headphone output, with a separate level control, follows the master bargraph signal. An engineers' wedge monitor may be connected to the L-R Mono output, which has a separate level control and can be set by its mode switch to follow the AFL/PFL buss.

All input channels, group and L-R (or aux masters) have individual 4-segment l.e.d. meters.

2-TRACK SEND AND RETURN

Phono connectors are provided for easy connection of analogue or digital recorders, CD or other intermission music sources. Send and return level controls are provided and a green l.e.d. warns when replay is being routed to the L-R mix.

Use the output to record sound checks or for performers' recordings of the gig. Setting levels for the recorder is made easy by the 1kHz oscillator when routed to the L-R mix.

SYS-LINK™ EXPANDABILITY

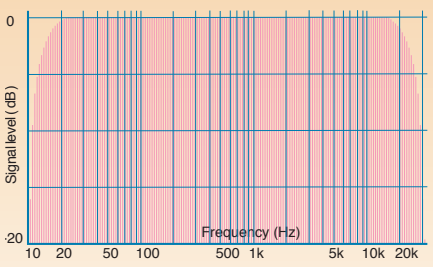
Sys-link™ is Allen & Heath's buss interconnection option that allows a console to be connected to any other Sys-link™-compatible mixer within seconds. A single multi-way cable joining any two consoles in the system is all that is required.

As Sys-link™ is an electronic standard there are no mechanical or physical constraints on connection to other consoles. The GL2200 is at home working alongside an 8-buss GL4000 or a GR1 3 zone mixer, or any number or combination of Sys-Linked Allen & Heath consoles.

ENGINEERS' TOOLBOX

GL2200 is equipped with comprehensive afl/pfl monitoring facilities, input, output and master metering, engineer's headphones, talkback to monitors or audience, and signal generators for equipment calibration and loudspeaker setup.

Oscillator and pink noise generator.
A 1kHz signal can be routed through level control and meters to 2-track recorders or other equipment for level alignments. GL2200 also has its own pink noise generator so you can check frequency response and phase connections for the loudspeaker arrays, perhaps compensating for auditorium acoustics or speaker characteristics by using graphic equalisers connected to the group/L-R inserts.



Pink noise gives equal energy per octave over the audio band. It closely simulates human hearing characteristics and the kind of signals the sound system will actually be required to reproduce.

Stereo channels also accept separate mono mic inputs, so you don't waste channels when you're not working with stereo sources.

Multitrack recording: direct outputs on every channel, post fade, are ideal for live multitrack recording (or for musicians' local fx).

Connections

GL2200

Master section

Input channels

Specifications

GL2200

4 frame sizes

GL2200-412. 12 channel

GL2200-416. 16 channel

GL2200-424. 24 channel

GL2200-432. 32 channel

performance

FREQUENCY RESPONSE.
Referred to 1kHz @ +4dBu.

Line in to L-R out, 0dB gain:	20Hz to 50kHz +0/-1dB
Mic in to L-R out, 40dB gain	20Hz to 50kHz +0/-1dB

DISTORTION.
THD+noise @ +14dBu, 1kHz output

Mic in to L-R out, 40 dB gain:	0.010%
Line in to L-R out, 0dB gain	0.008%

CROSSTALK.
Referred to driven channel @ 1kHz

Adjacent channel:	< - 94dB
Fader closed:	< - 90dB
Mute on:	< - 90dB
Pan pot isolation:	< - 80 dB

NOISE PERFORMANCE.
Measured rms, 22kHz bandwidth

Mic in EIN (150 ohm source):	< - 128dB	
Line preamp, 0dB gain:	< - 90dBu	
L-R residual noise:	< - 94dBu,	98dB s/n
L-R faders '0', nil routed:	< - 90dBu,	94dB s/n
L-R mix noise (16 channels routed):	< - 84dBu,	88dB s/n
Group mix noise, faders '0', nil routed:	< - 91dBu,	95dB s/n
Group mix noise (16 channels routed):	< - 84 dBu,	88dB s/n

CMRR.

Mic in, 40dB gain @ 1kHz:	> 70dB

levels & impedances

INPUT IMPEDANCES

Mic inputs	>2k ohm balanced XLR 2 hot, 3 cold
Line inputs	>10k ohm balanced TRS tip hot, ring cold and XLR 2 hot, 3 cold
Stereo ch line inputs	>8k ohm unbalanced TRS, tip hot
Stereo return inputs	unbalanced TRS, tip hot
2-track returns	>10k ohm unbalanced RCA phono

OUTPUT IMPEDANCES

L-R outputs	<75 ohms balanced XLR, 2 hot, 3 cold
Direct outputs	<75 ohms impedance bal TRS, tip hot
2-track sends	<75 ohm unbalanced RCA phono
Aux outputs	<75 ohms impedance bal TRS tip hot
Group outputs	<75 ohms balanced XLR, 2 hot, 3 cold
Insert points	<75 ohms unbalanced TRS tip send, ring rtn
Mono output	<75 ohms balanced XLR
Monitor output	unbalanced TRS tip L, ring R
Phones output	32 to 600 ohms TRS tip L, ring R

INPUT LEVELS

Mic inputs	-60 to -20dBu
Line inputs	-30 to +10dBu
Stereo ch line inputs	-20dBu min
Stereo return inputs	-10dBV min
2-track returns	-10dbV min
Channel insert returns	0dBu, +21dBu max
Output insert returns	-2dBu, +21dBu max

NOMINAL OUTPUT LEVELS

L-R outputs	+4dBu, +27dBu max
Direct outputs	0dBu
2-track sends	0dBu, +21dBu max
Group outputs	+4dBu, +27dBu max
Aux outputs	-2dBu, +21dBu max
Mono output	+4dBu, +27dBu max
Channel insert sends	0dBu, +21dBu max
Output insert sends	-2dBu, +21dBu max
Monitor output	0dBu, +21dBu max

options

Sys-link™ Buss interconnection system which allows you to join any two or more A&H consoles together electronically. The optional circuit card and wiring harness requires installation by a competent technician.
Balanced output A set of balanced output driver chips to balance the aux sends and mono output.
External power supply. An external d.c. supply may be used instead of or together with the internal supply. In the absence of an active 100 to 240V a.c. mains supply being present, GL2200 will automatically switch over to the external d.c. supply input.

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CE This product complies with the European Electromagnetic Compatibility Directives 89/336/EEC & 92/31/EEC and the European Low Voltage Directives 73/23/EEC & 93/68/EEC.

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